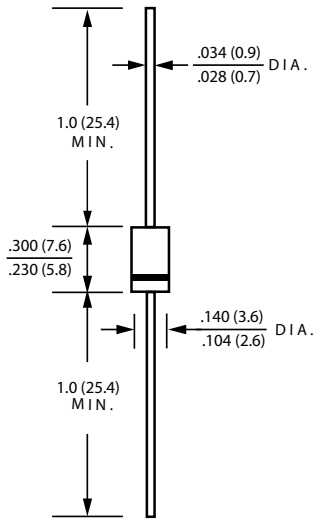




## Transient Voltage Suppressors(600W)



### DO-15

Dimensions in inches and (millimeters)



Ordering Information	
Part Number	Compound
P6KE SERIES	General
P6KE SERIES-H	Halogen Free
P6KE SERIES-Q	Automotive

PRIMARY CHARACTERISTICS	
V <sub>BR</sub>	6.8~600V
PPPM	600W
P <sub>D</sub>	5W
T <sub>J</sub> max	150°C

### Features

- Glass passivated chip
- 600W peak pulse power Dissipation
- Excellent clamping capability
- Uni and Bidirectional unit
- Very fast response time
- Component in accordance to RoHS 2002/95/EC
- AEC-Q101 Qualified

### Mechanical Data

- Cases: DO-15
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Terminals: Lead free Plating (Tin Finish)  
Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.373 grams (approximate)

### MAXIMUM RATINGS (TA=25°C unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNIT
Peak power dissipation with a 10/1000µs waveform	P <sub>PP</sub>	Minimum600	W
Power dissipation on infinite heatsink at TL=75°C	P <sub>D</sub>	5	W
Peak forward surge current, 8.3ms single half sine-wave unidirectional only(1)	I <sub>FSM</sub>	100	A
Maximum instantaneous forward voltage at 50A for unidirectional only(2)	V <sub>F</sub>	3.5/5.0	V
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 ~ +150	°C

Note:

(1) Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

(2) V<sub>F</sub> < 3.5V for devices of V<sub>BR</sub> < 200V and V<sub>F</sub> < 5.0V for devices of V<sub>BR</sub> > 201V



# P6KE SERIES



## Transient Voltage Suppressors(600W)

Part Number		Reverse Stand-off Voltage	Breakdown Voltage Min@I <sub>T</sub>	Breakdown Voltage Max@I <sub>T</sub>	Test Current	Max Clamping Voltage V <sub>C</sub> @I <sub>PP</sub>	Peak Pulse Current	Reverse Leakage I <sub>R</sub> @V <sub>RRM</sub>
DIRECTIONAL		V <sub>RRM</sub>	V <sub>BR</sub>	V <sub>BR</sub>	I <sub>T</sub>	V <sub>C</sub>	I <sub>PP</sub>	I <sub>R</sub>
UNI	BI	V	V	V	mA	V	A	uA
P6KE6.8A	P6KE6.8CA	5.80	6.46	7.14	10.0	10.5	57.14	1000
P6KE7.5A	P6KE7.5CA	6.40	7.13	7.88	10.0	11.3	53.10	500
P6KE8.2A	P6KE8.2CA	7.00	7.79	8.61	10.0	12.1	49.59	200
P6KE9.1A	P6KE9.1CA	7.80	8.65	9.56	1.0	13.4	44.78	50
P6KE10A	P6KE10CA	8.60	9.50	10.50	1.0	14.5	41.38	10
P6KE11A	P6KE11CA	9.40	10.45	11.55	1.0	15.6	38.46	5
P6KE12A	P6KE12CA	10.20	11.40	12.60	1.0	16.7	35.93	5
P6KE13A	P6KE13CA	11.10	12.35	13.65	1.0	18.2	32.97	5
P6KE15A	P6KE15CA	12.80	14.25	15.75	1.0	21.2	28.30	5
P6KE16A	P6KE16CA	13.60	15.20	16.80	1.0	22.5	26.67	5
P6KE18A	P6KE18CA	15.30	17.10	18.90	1.0	25.2	23.81	5
P6KE20A	P6KE20CA	17.10	19.00	21.00	1.0	27.7	21.66	5
P6KE22A	P6KE22CA	18.80	20.90	23.10	1.0	30.6	19.61	5
P6KE24A	P6KE24CA	20.50	22.80	25.20	1.0	33.2	18.70	5
P6KE27A	P6KE27CA	23.10	25.65	28.35	1.0	37.5	16.00	5
P6KE30A	P6KE30CA	25.60	28.50	31.50	1.0	41.4	14.49	5
P6KE33A	P6KE33CA	28.20	31.35	34.65	1.0	45.7	13.13	5
P6KE36A	P6KE36CA	30.80	34.20	37.80	1.0	49.9	12.02	5
P6KE39A	P6KE39CA	33.30	37.05	40.95	1.0	53.9	11.13	5
P6KE43A	P6KE43CA	36.80	40.85	45.15	1.0	59.3	10.12	5
P6KE47A	P6KE47CA	40.20	44.65	49.35	1.0	64.8	9.26	5
P6KE51A	P6KE51CA	43.60	48.45	53.55	1.0	70.1	8.56	5
P6KE56A	P6KE56CA	47.80	53.20	58.80	1.0	77.0	7.79	5
P6KE62A	P6KE62CA	53.00	58.90	65.10	1.0	85.0	7.06	5
P6KE68A	P6KE68CA	58.10	64.60	71.40	1.0	92.0	6.52	5
P6KE75A	P6KE75CA	64.10	71.25	78.75	1.0	103.0	5.83	5
P6KE82A	P6KE82CA	70.10	77.90	86.10	1.0	113.0	5.31	5
P6KE91A	P6KE91CA	77.80	86.45	95.55	1.0	125.0	4.80	5
P6KE100A	P6KE100CA	85.50	95.00	105.00	1.0	137.0	4.38	5
P6KE110A	P6KE110CA	94.00	104.50	115.50	1.0	152.0	3.95	5
P6KE120A	P6KE120CA	102.00	114.00	126.00	1.0	165.0	3.64	5
P6KE130A	P6KE130CA	111.00	123.50	136.50	1.0	179.0	3.35	5
P6KE150A	P6KE150CA	128.00	142.50	157.50	1.0	207.0	2.90	5
P6KE160A	P6KE160CA	136.00	152.00	168.00	1.0	219.0	2.74	5
P6KE170A	P6KE170CA	145.00	161.50	178.50	1.0	234.0	2.56	5
P6KE180A	P6KE180CA	154.00	171.00	189.00	1.0	246.0	2.44	5
P6KE200A	P6KE200CA	171.00	190.00	210.00	1.0	274.0	2.19	5
P6KE220A	P6KE220CA	185.00	209.00	231.00	1.0	328.0	1.83	5
P6KE250A	P6KE250CA	214.00	237.50	262.50	1.0	344.0	1.74	5
P6KE300A	P6KE300CA	256.00	285.00	315.00	1.0	414.0	1.45	5
P6KE350A	P6KE350CA	299.00	332.50	367.50	1.0	482.0	1.24	5



## Transient Voltage Suppressors(600W)

Part Number		Reverse Stand-off Voltage	Breakdown Voltage Min@I <sub>T</sub>	Breakdown Voltage Max@I <sub>T</sub>	Test Current	Max Clamping Voltage V <sub>C</sub> @I <sub>PP</sub>	Peak Pulse Current	Reverse Leakage I <sub>R</sub> @V <sub>RRM</sub>
DIRECTIONAL		V <sub>RRM</sub>	V <sub>BR</sub>	V <sub>BR</sub>	I <sub>T</sub>	V <sub>C</sub>	I <sub>PP</sub>	I <sub>R</sub>
UNI	BI	V	V	V	mA	V	A	uA
P6KE380A	P6KE380CA	324.90	361.00	399.00	1.0	524.0	1.14	5
P6KE400A	P6KE400CA	342.00	380.00	420.00	1.0	548.0	1.09	5
P6KE440A	P6KE440CA	376.00	418.00	462.00	1.0	607.0	0.99	5
P6KE450A	P6KE450CA	427.50	475.00	525.00	1.0	690.0	0.87	5
P6KE520A	P6KE520CA	444.60	494.00	546.00	1.0	717.6	0.84	5
P6KE550A	P6KE550CA	470.30	522.50	577.50	1.0	759.0	0.79	5
P6KE600A	P6KE600CA	513.00	570.00	630.00	1.0	828.0	0.72	5

Note:

1. Suffix 'A ' denotes 5% tolerance device.
2. For Bi-Directional devices having VR of 10volts and under, the IR limit is double.
3. Add suffix 'CA' after part number to specify Bi-directional devices.



Transient Voltage Suppressors(600W)

Fig. 1 - Pulse Derating Curve

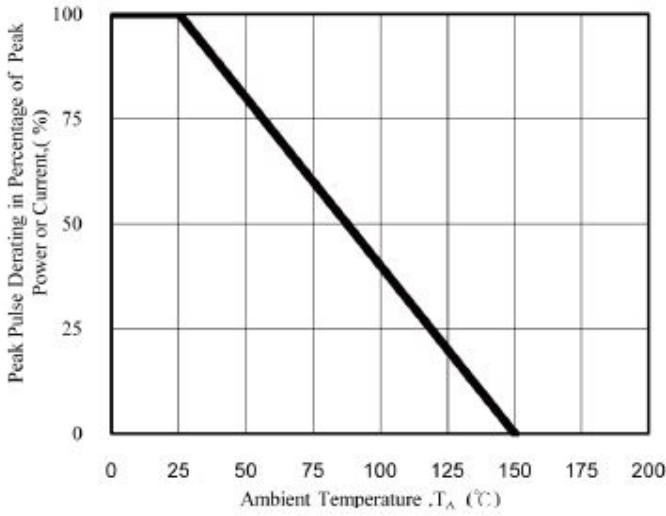


Fig. 2 - Maximum Non-Repetitive Surge Current

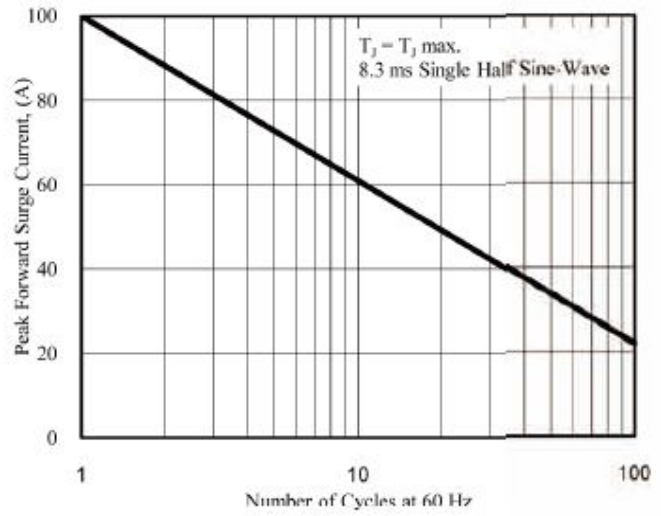


Fig. 3 - Steady State Power Derating Curve

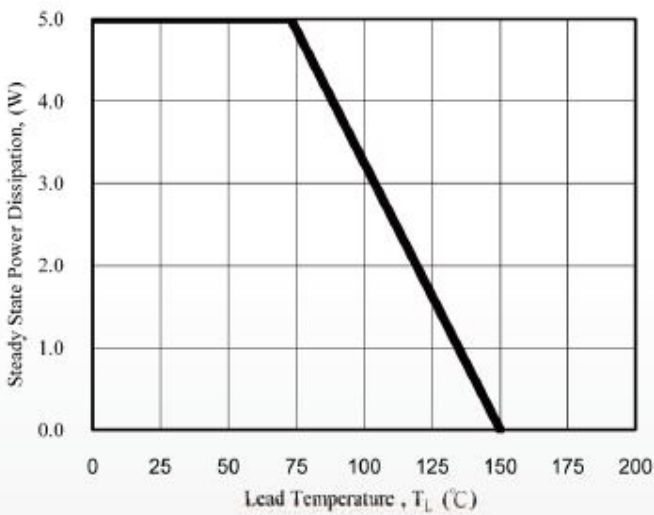


Fig. 4 - Peak Pulse Power Rating Curve

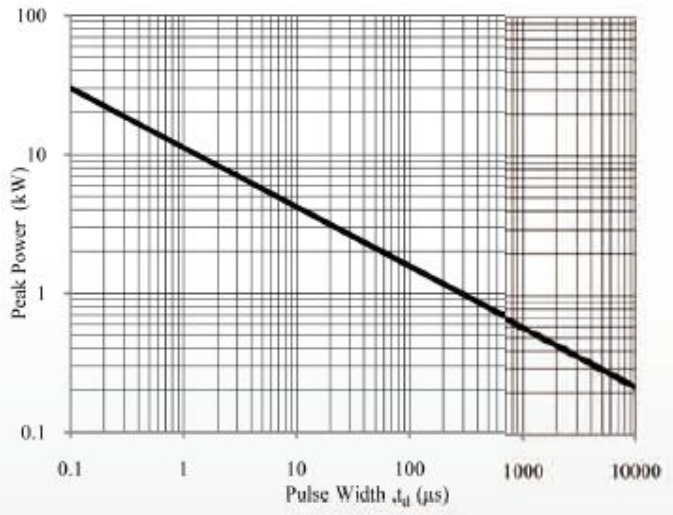


Fig. 5 - Pulse Waveform

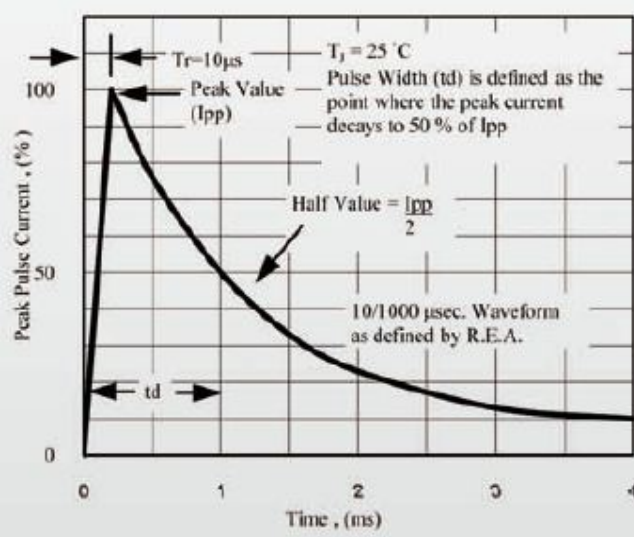


Fig. 6 - Typical junction Capacitance

